Author Index

A

Ager, B.P., Regulations and the European scene S42
Andrew, M.H.,Grazing impact in relation to livestock watering points 336
Ashmore, M., Review of *Effects of Atmospheric Pollutants on Forests, Wetlands and Agricultural Ecosystems*, edited by T.C. Hutchinson and K.M. Meema 313
Auerbach, M., Comment on spatial scale and plant species richness 55
Ayres, J.M., Review of *Primate Societies*, edited by B.B. Smuts, D. L. Cheney, R.M. Seyfarth, R.W. Wrangham and T.T. Struhsaker 180

B

Bairlein, F., How do migratory songbirds cross the Sahara? 191
Ballou, J., *see* Ralls, K.
Bartlett, J., Friends in need: burying beetles and their mites 123
Barton, R.A., *see* Whiten, A.
Bell, M.A., Stickleback fishes: bridging the gap between population biology and paleobiology 320
Bennett, K.D. and Lamb, H. F., Interactions among tree populations 141
Bennun, L.A. and Read, A.F., Joint nesting in the acorn woodpecker 319
Benton, M.J.,The relationships of the major group of mammals: new approaches 40
The nature of an adaptive radiation 127
Berenbaum, M.R., Review of *Insects and the Plant Surface*, edited by B. Juniper and T.R.E. Southwood 119
Bergerud, A.T., Caribou, wolves and man 68
Berman, C.M., Review of *Primate Social Systems*, by R.I.M. Dunbar 347
Bernstein, C., *see* Kacelnik, A.
Bierzychudek, P., Fungal pathogens affect plant population dynamics and evolution 6
Can patchiness promote prey outbreaks? 62
Bishop, D.H.L., The release into the environment of genetically engineered viruses, vaccines and viral pesticides S12
Blouin, M., *see* Forster Blouin, S.
Blower, S., Ecology and epidemiology of infectious disease 156
Borgerhoff Mulder, M., Behavioural ecology in traditional societies 260
Bristow, C.M., What makes a predator specialize? 1
Is diet choice a picnic for leaf-cutter ants? 153
Brockmann, H.J., Review of *The Natural History and Behavior of North American Beewolves*, by H. E. Evans and K. M. O'Neill 313
Brookfield, J.F.Y. and Sharp, P.M., Processes of molecular evolution 250
Brooks, D.R., Review of *The Evolution of Individuality*, by L.W. Buss 214
Burt, A., *see* Harvey, P.

C

Caro, T.M., Adaptive significance of play: are we getting closer? 50
Caswell, H., *see* van Groenendael, J.
Chung-I Wu, *see* Werren, J.H.
Connolly, J., What is wrong with replacement series? 24
Cowie, R. H., Fungus-growing termites and the tropical environment 60
Review of *Tropical Ecology and Physical Edaphology* by R. Lal 120
Cowley, C., Review of *The Changing Environment*, by J. W. Moore 57
Crawley, M.J., COGENE/SCOPE at Lake Como S2
Crozier, R.H., *see* Elgar, M.A.

D

Davies, J., Genetic engineering: processes and products S7
de Kroon, H., *see* van Groenendael, J.
Dobson, A. and Ortiz, E.G., Going, going... guan! 217
Dover, G.A., Evolving the improbable 81
Drake, J.A., Biological invasions into nature reserves 186
Dye, C., Review of *Population Ecology of Individuals*, by A. Łomnicki 215

E

Edmunds, M., Sexual cannibalism in mantids 77
Edwards, J.S., Life in the allobiosphere 111
Ehrlich, P.R., Review of *The New Environmental Age*, by M. Nicholson 88
Elgar, M.A. and Crozier, R.H., Environment and sex determination in alligators 59
Sex with dead cells may be better than no sex at all 249
Ellstrand, N.C., Pollen as a

vehicle for the escape of engineered genes? S30
Evermann, J.F., *see* O'Brien, S. J.

F
Fagerström, T., Lotteries in communities of sessile organisms 303
Field, C.B. and Goulden, M.L., Hydraulic lift: broadening the sphere of plant–environment interactions 189
Forster Blouin, S. and Blouin, M., Inbreeding avoidance behaviors 230
Fowler, A.J., *see* Mapstone, B.D.
Frumhoff, P.C., *see* Waldman, B.
Fryxell, J.M. and Sinclair, A.R.E., Causes and consequences of migration by large herbivores 237

G
Gaertner, F. and Kim, L., Current applied recombinant DNA projects S4
Getz, W. M., Dialects and the evolution of the honeybee dance language 32
Ghazally Ismail, Conservation of the giant *Rafflesia* in Sabah, Malaysia 316
Gibbons, D. W., Review of *Helping and Communal Breeding in Birds*, by J.L. Brown 90
Goldizen, A.W., Tamarin and marmoset mating systems: unusual flexibility 36
Gottschal, J.C., Primary production in the dark deep sea 63
Gould, F., Genetic engineering, integrated pest management and the evolution of pests S15
Goulden, M.L., *see* Field, C.B.
Gross, L.J., Review of *Potentials and Limitations of Ecosystem Analysis*, edited by E-D. Schulze and H. Zwölfer 283
Guilford, T., Courtship and crypsis in guppies: a case for safe sex 5
Gustafsson, L., Review of *Avian Genetics: A Population and Ecological Approach*, edited by F. Cooke and P. A. Buckley 245

H
Halliday, T., Sexual conflict and female choice in fishes 124
Hamner, W.M., The 'lost year' of the sea turtle 116
Hanski, I., Are the pyramids deified dung pats? 34
Hansson, L. and Henttonen, H., Rodent dynamics as community processes 195
Hara, T., Dynamics of size structure in plant populations 129
Harvey, P. H., *see* Pagel, M.D.
Harvey, P.H. and Burt, A., Review of *The Evolution of Sex*, edited by R.E. Michod and B.R. Levin, and *The Evolution of Sex and its Consequences*, edited by S.C. Stearns 149
Hatcher, B.G., Coral reef primary productivity: a beggar's banquet 106
Heath, I.B., Gut fungi 167
Henttonen, H., *see* Hansson, L.
Heusler, K., *see* Poole, N.J.
Hewitt, G.M., Hybrid zones – natural laboratories for evolutionary studies 158
Hiraiwa-Hasegawa, M., Adaptive significance of infanticide in primates 102
Hirons, G., Review of *Wildlife Radio Tagging*, by R. Kenward 56
Hodgson, J. and Sugden, A.M., Towards dialogue in the recombinant DNA controversy S1
Hölldobler, B., *see* Wilson, E.O.
Hughes, A.L., The quagga case: molecular evolution of an extinct species 95
DNA from a 7000-year-old brain 315
Hutchings, M.J., Differential foraging for resources and structural plasticity in plants 200

J
Janis, C.M., New ideas in ungulate phylogeny and evolution 291
Jones, D.A., E.B. Ford (1901–1988): the originator of ecological genetics 115
Jones, J.S., Gaps in fossil teeth: saltations or sampling errors? 208

K
Kacelnik, A. and Bernstein, C., Optimal foraging and arbitrary food distributions: patch models gain a lease of life 251
Kay, E.A., *see* Palumbi, S.R.
Kiltie, R.A., Countershading: universally deceptive or deceptively universal? 21
Kim, L., *see* Gaertner, F.
Kingsbury, D.T., Regulation of biotechnology in the United States: one and a half years of using the 'coordinated framework' S39
Knoll, A.H., Review of *The Origins of Angiosperms and their Biological Consequences*, edited by E.M. Friis, W.G. Chaloner and P.R. Crane 150

L
Lamb, H.F., *see* Bennett, K.D.
Lawton, J.H. and Warren, P.H., Static and dynamic explanations for patterns in food webs 242
Lenski, R.E. and Nguyen, T.T., Stability of recombinant DNA and its effect on fitness S18
Levin, B.R., *see* Simonsen, L.
Levin, S.A., Safety standards for the environmental release of genetically engineered organisms S47
Lundberg, P., The evolution of partial migration in birds 172
Lyles, A.M., Review of *Primates*, edited by K. Benirschke 87

M
Mahler, J.L., *see* Poole, N.J.
Mallet, J., Review of *The Butterflies of Costa Rica and their Natural History*, by P.J. De Vries 183
Mapstone, B.D. and Fowler, A.J., Recruitment and the structure of assemblages of fish on coral reefs 72
McKinney, F.K., Multidisciplinary perspectives on evolutionary innovations 220
McMenamin, M.A.S., Paleoecological feedback and the Vendian–Cambrian transition 205
McNamara, K.J., Patterns of heterochrony in the fossil record 176
Merriam, G., Landscape dynamics in farmland 16
Meyer, Jacques, The evolution of ferredoxins 222
Meyer, Jürg, *see* Stearns, S.
Michaloud, G., Fighting in fig wasps 77
Milinski, M., Games fish play: making decisions as a social forager 325
Miller, R.V., Potential for transfer and establishment of engineered genetic sequences S23
Mitchley, J., Restoration of species-rich calcicolous grassland on ex-arable land in Britain 125
Mooney, H.A., Ecologists and the global change program 4
Moore, J., Primate dispersal 144
Mueller-Dombois, D., Forest decline and dieback – a global ecological problem 310
Murray, J.D., Spatial dispersal of species 307
Myers, A. A., Endemism in Hawaiian marine invertebrates 20

N
Nee, S., The password effect of sex in fungi 218
Nguyen, T. T., *see* Lenski, R.E.
Nichols, R.A., Evolution at a snail's pace 94
Nur, U., *see* Werren, J.H.

O
O'Brien, S.J. and Evermann, J.F., Interactive influence of infectious disease and genetic diversity in natural populations 254
O'Connor, R.J., Review of *Multivariate Analysis of Ecological Communities*, by P.G.N. Digby and R.A. Kempton 121
Ortiz, E.G., *see* Dobson, A.

P
Packer, C., Review of *Animal Societies*, edited by Y. Itô, J.L. Brown and J. Kikkawa 89
Pagel, M.D., Trevelyan, R. and Harvey, P.H., The evolution of bowerbuilding 288
Palumbi, S.R. and Kay, E.A., Endemism in Hawaiian marine invertebrates: response to Myers 55
Partridge, L., Territorial interrogative 317
Perry, B.D., Life after the tsetse fly 187
Pimm, S.L., Rapid morphological change in an introduced bird 290
Pitelka, L.F., Evolutionary responses of plants to anthropogenic pollutants 233
Poole, N.J., Mahler, J.L. and Heusler, K., The involvement of European industry in developing regulations S45
Prentice, I.C., Palaeoecology and plant population dynamics 343
Pusey, A.E., Reply to 'Primate dispersal' 145

R
Rabinovich, J., The SPIDER program: rebuilding ecology in Argentina 33
Ralls, K. and Ballou, J., Review of *Viable Populations for Conservation*, edited by M.E. Soulé 148
Read, A.F., Sexual selection and the role of parasites 97
see Bennun, L.A.
Regal, P.J., The adaptive potential of genetically engineered organisms in nature S36
Reiss, M., Scaling of home range size: body size, metabolic needs and ecology 85
Rice, W.R., The effect of sex chromosomes on the rate of evolution 2
Ronsheim, M.L., Determining the pattern of resource allocation in plants 30

S
Sale, P.F., Review of *Ecological Studies in Tropical Fish Communities*, by R.H. Lowe-McConnell 27
Schultz, J.C., Plant responses induced by herbivores 45
Scott, J.E., How did 'biopolymers' evolve before life began? 340
Sharp, P.M., Introns and the origins of life 154
see Brookfield, J.F.Y.
Sherman, P.W., *see* Waldman, B.
Shorrocks, B., Review of *The Niche in Competition and Evolution*, by W. Arthur 246
Shykoff, J., *see* Stearns, S.
Sibly, R., Review of *New Directions in Ecological Physiology*, edited by M. E. Feder, A. F. Bennett, W. W. Burggren and R. B. Huey 346
Silvertown, J., Whither plant ecology? 118
Simonsen, L. and Levin, B.R., Evaluating the risk of releasing genetically engineered organisms S27
Sinclair, A.R.E., *see* Fryxell, J.M.
Slater, P.J.B., Transplant experiments with bird song 92
Stearns, S., Meyer, J. and Shykoff, J., COGENE 88 at Basel S2
Strassmann, J.E., Worker reproduction in social insects 286
Strong, D.R., Parasitoid theory: from aggregation to dispersal 277
Sugden, A.M., Ecology 75 years on 185
see Hodgson, J.
Sutherland, W.J., Predation may link the cycles of lemmings and birds 29

Swinburne, N.H.M., The Solnhofen limestone and the preservation of *Archaeopteryx* 274

T

Thresher, R.E., Otolith microstructure and the demography of coral reef fishes 78
Travis, J., Differential fertility as a major mode of selection 227
Trevelyan, R., *see* Pagel, M.D.

V

Van Groenendael, J., de Kroon, H. and Caswell, H., Projection matrices in population biology 264
Vollrath, F., Untangling the spider's web 331

W

Walde, S.J., Review of *Ecological Approach to Pest Management*, by D.J. Horn 346
Waldman, B., Frumhoff, P.C. and Sherman, P.W., Problems of kin recognition 8
Warman, S.R., Review of *Handbook of the Birds of Europe, the Middle East and North Africa, Vol. V: Tyrant Flycatchers to Thrushes*, edited by S. Cramp *et al.* 282
Warner, R.R., Sex change and the size-advantage model 133
Warren, P.H., *see* Lawton, J.H.
Waterman, P.G., Review of *Introduction to Ecological Biochemistry* (3rd edn), by J.B. Harborne 281
Watkinson, S.C., Review of *Evolutionary Biology of the Fungi*, edited by A.D.M. Rayner, C.M. Brasier and D. Moore 181
Webb III, T., Spatial scale and plant species richness 54
Review of *Long-term Forest Dynamics of the Temperate Zone*, by P. A. Delcourt and H. R. Delcourt 281
Werren, J.H., Nur, U. and Chung-I Wu, Selfish genetic elements 297
Wheelwright, N.T., Fruit-eating birds and bird-dispersed plants in the tropics and temperate zone 270
Whiten, A. and Barton, R.A., Demise of the checksheet: using off-the-shelf miniature hand-held computers for remote fieldwork applications 146
Wilbur, H.M., Escalating wars between salamanders 91
Interphyletic competition between tadpoles and insects 287
Williamson, M., Potential effects of recombinant DNA organisms on ecosystems and their components S32
Wilson, E.O. and Hölldobler, B., Dense heterarchies and mass communication as the basis of organization in ant colonies 65
Wiltschko, R., *see* Wiltschko, W.
Wiltschko, W. and Wiltschko, R., Magnetic versus celestial orientation in migrating birds 13
Witman, J.D., Stability of Atlantic kelp forests 285
Woodell, S.R.J., Review of *Serpentine and its Vegetation*, by R.R. Brooks 26
Woodward, F.I., Review of *Environmental Physiology of Plants*, by A.H. Fitter and R.K.M. Hay 247
Wright, W.G., Sex change in the Mollusca 137

Y

Yang, N-S., Genotypic and phenotypic changes in plant varieties S21

Subject Index

A

acorn woodpeckers,
  joint nesting 319
adaptive radiation,
  palaeobiology 127
aeolian ecology 112
agricultural economics,
  landscape ecology 18
agriculture,
  genetic engineering S6
  tropical 120
algae,
  coral reefs 106
allobiosphere,
  nutrient dynamics 111
amino acid sequences,
  ferredoxins 223
angiosperm
  palaeobotany 150
ants,
  leaf-cutter 153
  social organization 65
archaebacteria,
  ferredoxins 226
Archaeopteryx 274
Argentina,
  ecological research 33
atmospheric pollution,
  ecosystem effects 313
avian genetics 245

B

B chromosomes 297
bacteria,
  ice-nucleating S4
baculoviruses,
  genetic engineering S13
beetles,
  phoretic associations with mites 123
beewolves,
  natural history and behaviour 313
benthic communities,
  hydrothermal vents 111
bet hedging,
  bird migration 174
biochemical evolution 340
  ferredoxins 222
biogeochemical cycling 4
biological control,
  insects 1
  population dynamics 62
biological invasions S33
  nature reserves 186
biological oceanography 116
biopolymers,
  evolution 340
biotechnology,
  genetic engineering S1–S49
bird song,
  evolution on islands 92
birds,
  migration 13
  population cycles and predation 29
  seed dispersal 270
body size,
  food webs 243
  home range size 85
bollworm S15
bottlenecks,
  population biology 255
bowerbirds 288
breeding systems,
  human 260
British Ecological Society 185
butterflies,
  tropical 183

C

calcicolous grassland,
  restoration 125
calcification,
  coral reefs 110
cannibalism,
  mantids 77
caribou,
  demography 68
cascade model,
  food webs 243
celestial orientation,
  migrating birds 13
chemoheterotrophy,
  deep sea 63
chemolithoautotrophy,
  deep sea 63
chromosomal inheritance,
  sex determination 2
Chrysopa spp 1
chytridiomycetes 168
cladistics,
  mammalian relationships 41
climatic change,
  plant population dynamics 343
coevolution,
  beetles and mites 123
  genetic engineering S20
coexistence 246
  lottery models 304
  salamanders 91
colonization,
  landscape ecology 16
colour patterns,
  polymorphism in guppies 5
colour preferences,
  bowerbirds 288
communication,
  ants 65
  honeybees 32
community ecology,
  kelp forests 285
  lottery models 303
  tropical fish 27
competition 246
  plant population dynamics 130
  salamanders 91
  tadpoles and insects 287
competition experiments,
  plants 24
competition models,
  assemblages of coral reef fishes 73
competitive exclusion,
  lottery models 305
computers for fieldwork 146
condition dependence,
  animal migration 175
conjugation,
  transfer of plasmids S23
conservation,
  biological invasions 186
  Cracidae 217
  landscape ecology 18
  primates 87
  tropical rain forest 316
conservation biology 148

construction rules,
spiders' webs 331
continuous input models,
social foraging 327
coral reef fishes,
otoliths and
demography 78
structure of
assemblages 72
coral reefs,
primary productivity
106
cotton,
bollworm S15
countershading 21
courtship display,
guppies 5
Cracidae,
conservation 217
crops,
genetic engineering S6
crypsis,
guppies 5

D

damage recognition
mechanisms,
plants 46
dance language,
honeybees 32
deceptive colouration 21
demographic crashes 255
density dependence,
parasitoids 278
density troughs 163
density vagueness,
parasitoids 278
diffusion model,
plant population
dynamics 131
digestion,
gut fungi 169
dimorphism,
genetic in birds 173
disease,
genetic diversity 254
plant population
dynamics 6
disease resistance in plants,
genetics 7
dispersal 307
coral reef fishes 72
gut fungi 168
seeds, by birds 270
distance models,
plant population
dynamics 130
disturbance,
forests 310
DNA,
ancient human remains
315
DNA repairs,
bacteria 249
domain models,
plant population
dynamics 130
Drosophila,
fertility selection 227
territorial behaviour
317
dung beetles,
Ancient Egypt 34
Dutch elm disease 218

E

ecological biochemistry
281
ecological concepts 185
ecosystem analysis 283
Egyptology,
dung beetles 34
endemism,
Hawaiian marine
invertebrates 20, 55
energetics,
bird migration 191
genetic engineering
S19
home range and body
size 85
play 52
Environmental Protection
Agency,
genetic engineering
S39
environmentalism 88
environmentally
determined sex change
135, 138
epidemiology 156
equids,
molecular evolution 95
eubacteria,
ferredoxins 226
eukaryotes,
ferredoxins 226
evolutionary innovations
220
evolutionary rates,
effects of sex
chromosomes 2
exon-shuffling 154
extinction,
landscape ecology 16

F

farmland,
landscape ecology 16
feedback loops,
ant communication 66
feeding specialization,
insects 1
female choice,
fish 124
influence of parasites
97
Fennoscandia,
population cycles 29
ferredoxins,
evolution 222
fertility selection 227
fig wasps,
fighting 77
fish,
community ecology 27
fitness,
genetic engineering
S18
fitness balancing,
bird migration 172
food webs,
explanations of
patterns 242
foraging,
ants 66
plants 200
foraging strategy,
traditional societies
261
Ford, E. B. 115
forest decline and
dieback 310
forest dynamics,
long-term 143
Quaternary 281
forest management 310
fossil record,
Archaeopteryx 274
gaps 208
predator–prey
interactions 205
founder effects,
bird song 93
frequency dependence
162
frequency-dependent
selection,
bird migration 174
frugivory,
birds 270
fungal pathogens 6
fungi,
evolution 181
gut 167
password effect of sex
218

G

gene flow,
hybrid zones 165
genetic diversity,
disease 254
genetic engineering,
ecosystem effects S32
population genetics
S18
techniques S7
genetically engineered
organisms S1–S49
genome evolution 155
Global Change Program 4
grazing effects,
calcicolous grassland
126
livestock watering
points 336
group size,

traditional societies 262
guans,
conservation 217
guppies,
colour patterns 5
gut fungi 167

H
hanuman langur,
infanticide 102
Hawaiian marine invertebrates,
endemism 20
helpers,
birds 90
primates 37
herbivores,
gut flora 167
migration 237
herbivory,
leaf-cutter ants 153
plant defenses 45
heterarchies,
ants 65
heterochrony,
fossil record 176
home range size,
scaling 85
honeybees,
dance language 32
host races,
insects 1
hybrid superiority 163
hybrid zones 158
hybridization,
Bahamian land snails 94
hydraulic lift,
plant–environment interactions 189
hydrothermal vent communities,
food chains 63
hydrothermal vents,
nutrient dynamics 111
hypermorphosis,
heterochrony 176

I
ice-minus bacteria S4
ideal free distribution,
social foraging 325
immigration,
landscape ecology 16
inbreeding avoidance
behaviour 230
indigo bunting,
migration 14
inducible defenses,
plants 45
industry,
genetic engineering S45
infanticide,
primates 102
infectious disease 156
innovations,
evolutionary 220
insecticides,
genetic engineering S13
insects,
competition with tadpoles 287
interference models,
social foraging 327
International Geosphere Biosphere Program 4
introduced species S33
introductions,
evolutionary effects 290
introns,
origins of life 154
island biogeography,
landscape ecology 16

J
joint nesting,
acorn woodpeckers 319

K
kelp forests,
stability 285
kin recognition 8
kin selection 8

L
lacewing,
feeding specialization 1
landscape ecology,
farmland 16
Laysan finch,
introductions 290
leaf surfaces,
plant–insect interactions 119
leaf-cutter ants 153
legislation,
genetic engineering S39, S42
lemmings,
population cycles and predation 29
life cycles,
gut fungi 168
life histories,
coral reef fishes 72
livestock,
impact on watering points 336
loggerhead turtle 116
Lotka–Volterra models,
food webs 242
lottery models 303
recruitment of coral reef fishes 73

M
macroevolution 220
heterochrony 178
magnetic orientation,
migrating birds 13
mammals,
home range and body size 85
migration 237
phylogeny and systematics 40
play 50
mantids,
sexual cannibalism 77
marine ecology,
hydrothermal vents 111
marine invertebrates,
Hawaiian 55
marmosets,
mating systems 36
mate choice,
influence of parasites 97
mating systems,
primates 36
meiotic drive 297
metapopulation models,
landscape ecology 16
microorganisms,
genetic engineering S4
migration,
birds 13
birds across Sahara 191
caribou and reindeer 68
large herbivores 237
partial in birds 172
minimum viable populations 148
mites,
phoretic associations with beetles 123
mitochondrial DNA,
equid evolution 95
molecular drive 81
molecular evolution 250
ferredoxins 222
quagga 95
molecular sequence data,
mammal phylogeny 44
molluscs,
sex change 137
morphological change,
following introduction 290
multigene families,
molecular drive 82
multivariate analysis 121

N
natural selection 81
nature reserves,
biological invasions 186
neoteny 176
niche specialization,
lacewings 1
niche theory 246
lottery models 303
nitrogen fixation,
genetic engineering S5
nutrient dynamics,

coral reefs 106
hydrothermal vents 111
terrestrial allobiosphere 112
nutrition,
migration of large herbivores 237

O

oceanic fronts 117
ontogeny,
evolution 214
optimal foraging,
patch models 251
organelle competition 300
orientation,
migrating birds 13
origins of life,
introns 154
otoliths,
demography of coral reef fishes 78

P

paedomorphosis,
fossil record 176
palaeobiology,
links to population biology 320
palaeobotany 150
palaeoecological feedback,
predator–prey interactions 205
palaeoecology 281
competitive interactions among trees 141
plant population dynamics 343
parasites,
rodent population dynamics 197
sexual selection 97
parasitoid theory 277
parental investment,
fish 124
password effect,
sex in fungi 218
patch dynamics,
landscape ecology 16
patch models,
optimal foraging 251
pathogens,
effects on plant population dynamics 6
pelvic reduction,
sticklebacks 320
peramorphosis,
fossil record 176
pest management 346
pesticides,
evolution of resistance S15
genetic engineering S4, S12
pests S32
population dynamics 1
phenotypic variation,
fertility selection 227
phoretic associations,
beetles and mites 123
photoluminescence,
aquatic animals 21
phylogenetic constraints 220
phylogenetic trees,
ferredoxins 223
mammals 42–43
phylogeny,
eukaryotes and prokaryotes 155
gut fungi 170
mammals 40
physiological ecology,
animals 346
plants 247
pigmentation,
deceptive colouration 21
piosphere concept 336
plankton,
oceanic 117
plant ecology 118
plant population biology,
dynamics of size structure 129
plant population dynamics,
palaeoecology 343
plant–environment interactions,
hydraulic lift 189
plant–herbivore interactions 1, 45
plant–insect interactions,
leaf surfaces 119
plants,
genetic engineering S5
plasmids,
genetic engineering S23
play,
adaptive significance 50
pollen,
escape of engineered genes S30
pollen record,
tree populations 141
plant population dynamics 343
pollution,
atmospheric 313
evolutionary responses of plants 233
management 57
polyandry,
cooperative 36
polygyny,
human societies 260
polymerase chain reaction 315
polymorphism,
colour patterns in guppies 5
kin recognition alleles 11
population biology 215
links to palaeobiology 320
parasitoids 277
projection matrices 265
population cycles,
predation 29
population dynamics,
caribou and reindeer 68
effects of fungal pathogens on plants 6
insect herbivores 47
insect pests 1
plants 118
predator–prey interactions 62
rodents 195
population genetics,
Bahamian land snails 94
birds 245
fertility selection 227
genetic engineering S18
plant responses to pollution 233
sexual selection and parasites 97
post-natal dispersal,
primates 144
post-displacement,
heterochrony 176
predation,
crypsis in guppies 5
insects 1
population cycles 29
rodent population dynamics 196
predator avoidance,
deceptive colouration 22
predator–prey interactions 309
caribou and wolves 70
population dynamics 62
Vendian–Cambrian transition 205
migration of large herbivores 239
predatory behaviour,
play 51
pre-displacement,
heterochrony 176
prey specificity,
insects 1
primary productivity,
coral reefs 106
primary production,
deep sea 63
primates,
conservation 87

infanticide 102
post-natal dispersal 144
social organization 180
social systems 347
probability in evolution 81
progenesis,
heterochrony 176
projection matrices,
population biology 265
protective colouration 21
protein,
genetic engineering S8
punctuated equilibrium 208

Q
quagga,
molecular evolution 95

R
radio tracking techniques 56
Rafflesia,
conservation 316
rangelands,
impact of livestock at watering points 336
recognition alleles 11
recombinant DNA technology S1–S49
recruitment limitation,
assemblages of coral reef fishes 73
refugia 164
regeneration,
calcicolous grassland 126
regeneration niche,
lottery models 304
regulation,
genetic engineering S39, S42, S45
reindeer,
demography 68
relatedness,
in animals 8
replacement series,
plant ecology 24
reproductive behaviour,
human 260
resistance,
of plants to pollution 233
pesticides S15
resource allocation,
plants 30
resource use,
migration of large herbivores 237
restoration ecology,
calcicolous grassland 125
risk assessment,
genetic engineering S27, S32, S36, S47
robins, European,
migration 14
rodents,
population dynamics 195
roots,
hydraulic lift 189

S
safety standards,
genetic engineering S47
Sahara,
bird migration 191
salamanders,
competition and coexistence 91
savanna sparrow,
migration 14
scaling,
home range size 85
secondary compounds,
plant defenses 46
seed dispersal,
birds 270
selection,
fertility 227
genetic engineering S19
selfish genetic elements 297
self-thinning rule 129
serpentine 26
sex,
evolution of 149
password effect in fungi 218
sex change,
environmental determination 135, 138
molluscs 137
physiology 139
size-advantage model 133
sex chromosomes,
effects on evolutionary rates 2
sex determination 2
alligators 59
sex ratio distortion 297
sexual selection,
bowerbirds 288
fish 124
infanticide in primates 103
parasites 97
size structure dynamics,
plant populations 129
size-advantage model,
sex change 133
slipper limpet,
sex change 137
social behaviour 89
primates 102
social foraging,
fish 325
social insects,
worker reproduction 286
social organization,
primates 180
social systems,
primates 347
sociobiology 260
Solnhofen Limestone,
preservation of *Archaeopteryx* 274
song,
birds 92
spatial heterogeneity,
dispersal models 307
spatial scale,
plant species richness 54
speciation,
heterochrony 178
hybrid zones 164
sympatric 165
species assemblages,
coral reef fishes 72
species richness
coral reef fishes 72
plants 54
species-rich communities,
restoration 125
SPIDER program,
Argentina 33
spiders,
web-building behaviour 331
stability,
kelp forests 285
stasis,
evolutionary 323
sticklebacks,
population biology and palaeobiology 320
social foraging 325
symbiosis,
corals and zooxanthellae 106
gut flora 167
systematics,
gut fungi 169
mammals 40

T
tadpoles,
competition with insects 287
tamarins,
mating systems 36
tension zones 161
termites,
fungus-growing 60
territorial behaviour,
Drosophila 317
traditional societies,
behavioural ecology 260
transduction,
genetic engineering S24

transformation,
bacterial DNA 249
genetic engineering S24
transgenic plants S5, S9, S15, S21, S30
transposons 297
tropical agriculture 120
tropical biology 183
trypanosomiasis 187
tsetse control 187

U

ungulates,
phylogeny and evolution 291

V

vaccines,
genetic engineering S12
vegetation,
response to climatic change 343
Vendian–Cambrian transition,
predator–prey interactions 205
viruses,
genetic engineering S6, S12

W

water relations,
plants 189
watering points,
grazing impact of
livestock 336
web-building behaviour,
spiders 331
weeds S33
wolves,
predation on caribou 70
woodland fragments,
landscape ecology 17
worker reproduction,
social insects 286

Z

zoospores,
gut fungi 168
zooxanthellae,
coral reef primary productivity 106
zugunruhe 191